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New Hope Power Company (NHPC)
Okeelanta Cogeneration Plant
8001 U.S. Highway 27 South
South Bay, Florida 33493

Authorized Representative:
Mr. Jose Gonzalez, Vice President of Industrial Operations

Air Permit No. 0990332-021-AC
Expires: December 31, 2016
PSD-FL-196R
Okeelanta Cogeneration Plant
Facility ID No. 0990332
Construction of New Natural Gas Fired Boiler

PROJECT

This is the final air construction permit, which authorizes the addition of a natural gas-fired boiler (Cogeneration Boiler D) at the NHPC Okeelanta Cogeneration Plant. The addition of a natural gas-fired boiler will allow NHPC the flexibility to produce steam and electricity year-round based on the most economical fuel or fuel mix. Steam produced by the new boiler will be tied into the existing steam system, which serves two steam turbine electrical generators (STEG) and provides the Okeelanta sugar mill and refinery with steam. The current maximum electrical generating capacity of the facility of 140 megawatts, net (MW-net) will not be increased with the addition of the new boiler. The Okeelanta Cogeneration Plant is an electrical services plant categorized under Standard Industrial Classification No. 4911. The Okeelanta Cogeneration Plant is located off U.S. Highway 27 South approximately six miles south of South Bay in Palm Beach County, Florida. The UTM coordinates of the facility are Zone 17, 524.9 kilometers (km) East and 2940.1 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and, Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix CF of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Executed in Tallahassee, Florida

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Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

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CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this final air permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Jose Gonzalez, NHPC: Jose_Gonzalez@floridacrystals.com
Mr. Matthew Capone, NHPC: Matthew_Capone@floridacrystals.com
Mr. Ricardo Lima, Okeelanta Corporation: Ricardo_Lima@floridacrystals.com
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Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

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PROPOSED PROJECT

NHPC has requested authorization to add a natural gas-fired boiler (Boiler D) to the Okeelanta Cogeneration Plant. The addition of a natural gas-fired boiler will allow NHPC the flexibility to produce steam and electricity year-round based on the most economical fuel or fuel mix. The new Boiler D will be fired with natural gas except during times of natural gas curtailment when fuel oil will be used. Steam produced by Boiler D will be tied into the existing steam system, which serves two STEG and provides the Okeelanta sugar mill and refinery with steam. The current maximum electrical generating capacity of the facility of 140 MW-net will not change with the addition of the new boiler.

Approximately 1 acre of the existing NHPC site will be used for the Boiler D power bloc. Boiler D will be permitted for 8,760 hours per year (hr/yr) of operation. The boiler will be a modern design natural gas-fired boiler. The minimum expected combustion efficiency is expected to be 85 percent (%). The primary fuel will be natural gas, with No. 2 (distillate) fuel oil used during times of natural gas curtailment. Under normal circumstance oil firing is limited to 48 hours in calendar year period. The distillate fuel oil will contain a maximum sulfur (S) content of 0.05%.

The maximum 1-hour average heat input to the boiler will be 589 million British thermal units per hour (MMBtu/hr), corresponding to a maximum 1-hour average steam production rate of 440,000 pounds per hour (lb/hr). The maximum 24-hour average heat input will be 536 MMBtu/hr, corresponding to a maximum 24-hour average steam production rate of 400,000 lb/hr.

This project does trigger a Prevention of Significant Deterioration (PSD) review and a requirement to conduct a Best Available Control Technology (BACT) determination pursuant to Department Rule 62-212.400, F.A.C. BACT determinations were required for the following pollutants: nitrogen oxides (NO_X); carbon monoxide (CO); particulate matter with a mean diameter of 10 micrometer (µm) or less (PM_{10}); and PM with a mean diameter of 2.5 µm or less ($PM_{2.5}$). In addition, according to 40 Code of Federal regulations (CFR) §52.21, six greenhouse gases (GHG), are also be subject to regulation at new stationary sources that will emit or have the potential to emit 100,000 tons/year (TPY) carbon dioxide equivalents (CO_{2e}) for sources that do not trigger PSD for any other pollutants or 75,000 TPY if they trigger PSD for other pollutants. This requirement has not been incorporated into Department rules but is a separate requirement of the EPA. This project triggers PSD for GHG and NHPC has submitted a PSD GHG application to EPA Region 4 in Atlanta.

This project will add Emission Unit (EU) 006 (highlighted in turquoise) to the existing emission units at the NHPC facility (see table below).

EU ID No.	Emissions Unit Description
001	Cogeneration Boiler A
002	Cogeneration Boiler B
003	Cogeneration Boiler C
004	Cogeneration Plant - Material Handling and Storage
005	Cogeneration Plant – Miscellaneous Support Equipment
006	Cogeneration Boiler D

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility's boilers are not subject to Clean Air Interstate Rule (CAIR) because they meet the exemption in CAIR for cogeneration units that generate less than 219,000 megawatt-hours (MW-hr) of electricity in any calendar year.
- The facility does not include units subject to the acid rain provisions of the Clean Air Act (CAA).

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- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C. because the potential emissions of at least one regulated pollutant exceed 100 tons/year.
- The facility is a major stationary source in accordance with Department Rule 62-212.400, F.A.C. – Prevention of Significant Deterioration (PSD).
- The proposed project includes units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations Part 60 (40 CFR 60).
- The proposed project includes units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.
- The project is subject to certification under the Florida Power Plant Siting Act, 403.501-518, F.S. and Chapter 62-17, F.A.C.

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SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The Permitting Authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department. The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Waste and Air Resource Management Section of the Department's Southeast District Office at: 400 North Congress Avenue, 3rd Floor, West Palm Beach, FL 33401.

3. Appendices: The following Appendices are attached as a part of this permit and must be complied with by the permittee:

   a. Appendix CC: Common Conditions;
   b. Appendix CEMS: Continuous Emissions Monitoring System (CEMS) Requirements;
   c. Appendix CF: Citation Formats and Glossary of Common Terms;
   d. Appendix CTR: Common Testing Requirements;
   e. Appendix Da: NSPS, Subpart Da – Standards of Performance Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978;
   f. Appendix DDDDD: NESHAP, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters;
   g. Appendix F 40 CFR 75, Appendix F, Section 5 – Measurement of Boiler Heat Input Rate;
   h. Appendix GC: General Conditions; and
   i. Appendix GP: Identification of General Provisions, Subpart A from NSPS 40 CFR 60 and Subpart A from NESHAP 40 CFR 63.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: No emissions unit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Source Obligation:

   (a) Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit.

   (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on

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hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

(c) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

8. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after completing the required work and commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

9. Unconfined Emissions of Particulate Matter: No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter. Reasonable precautions include the following: a) Paving and maintenance of roads, parking areas and yards; b) Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing; c) Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities; d) Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulate from becoming airborne; e) Landscaping or planting of vegetation; f) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter; g) Confining abrasive blasting where possible; and, h) Enclosure or covering of conveyor systems. In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice. [Rule 62-296.320(4)(c), F.A.C.]

10. Excess Emissions: Except as required by specific conditions of this permit dealing with excess emissions with regard to individual emission units, the following conditions apply to excess emissions at the NHPC.

    a. Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

    b. Malfunction: Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.

    c. Department Discretion: Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.

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d. Department Notification: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

[Rule 62-210.700, F.A.C.]

11. NESHAP, Subpart DDDDD: The NHPC Okeelanta Cogeneration Plant is a major source of HAP emissions. Consequently, natural gas fired Boiler D is subject to NESHAP Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. EPA issued the final version of NESHAP Subpart DDDDD on January 31, 2013 (78 FR 7138). This NESHAP applies to all Industrial, Commercial, and Institutional Boilers and Process Heaters at major sources of HAP emissions. A major source of HAP emits 25 tons per year (TPY) or greater of all HAP or 10 TPY or greater of a single HAP. So long as the natural gas fired Cogeneration Boiler D at the NHPC site is classified as Gas 1 subcategory unit, only work practice standards apply to the boiler. Per §63.7575:

"*a unit designed to burn gas 1 subcategory includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply interruptions of any duration are also included in this definition.*"

Instead of emission limits, a gas 1 subcategory unit with a heat input of 10 MMBtu/hr or greater must:

"*Conduct a tune-up of the boiler or process heater annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart.*"

If Boiler D does not fall into the Gas 1 subcategory, i.e., it burns a liquid fuel for more than 48 hours during any calendar year during periods when there is no gas curtailment, Subpart DDDDD has emission limits that apply to the boiler. If Cogeneration Boiler D falls into the subcategory of units that are designed to burn light liquid fuel (No. 2 fuel oil) then the following emission limits apply in units of pounds per MMBtu (lb/MMBtu) and pounds per megawatt-hour ((lb/MWh):

- Hydrogen Chloride (HCl) – emissions are limited to 4.4×10^{-04} lb/MMBtu of heat input, 4.8×10^{-04} lb/MMBtu of steam output or 6.1×10^{-03} lb/MWh;
- Hg – emissions are limited 4.8×10^{-07} lb/MMBtu of heat input, 5.3×10^{-07} lb/MMBtu of steam output or 6.7×10^{-06} lb/MWh;
- CO – emissions are limited to 130 parts per million by volume on a dry basis (ppmvd) corrected to 3% O_2, 3-run average , 0.13 lb/MMBtu of steam output or 1.4 lb/MWh; 3-run average; and
- Filterable PM or Total Select Metals (TSM) – emissions are limited to 1.3×10^{-02} lb MMBtu of heat input (7.5×10^{-05} lb/MMBtu of heat input TSM) or 1.5×10^{-02} lb/MMBtu of steam output or 1.8×10^{-01} lb/MWh; or (8.2×10^{-05} lb/MMBtu of steam output or 1.1×10^{-03} lb/MWh TSM).

Boiler D will be limited to burning liquid fuel for 48 hours during any calendar year and consequently will fall into the Gas 1 category. However, NHPC has petitioned the EPA to reconsider the applicability of Subpart DDDDD to the NHPC boilers. If the requirements of NESHAP Subpart DDDDD are changed with regard to the applicability, this permit will be modified accordingly.

[NESHAP, Subpart DDDDD and Rule 62-4.070, F.A.C. Reasonable Assurance]

12. Objectionable Odors Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor
[Rule 62-296.320(2), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

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{Permitting Note: An objectionable odor is defined in Rule 62-210.200 (Definitions), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.}

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A. Natural Gas-Fired Boiler D (EU 006)

This section of the permit addresses the following emissions unit.

EU ID No. 006	Emission Unit Description
Description: Boiler D will be fired with natural gas, with No. 2 fuel oil used during times of natural gas curtailment. *Fuels*: The Boiler D is fueled by natural gas. Except during time of natural gas curtailment, fuel oil can only be fired for 48 hours during any calendar year. *Capacity*: Boiler D will have a maximum 1-hour average heat input rate of 589 MMBtu/hr and a maximum 24-hour average heat input rate of 536 MMBtu/hr. The corresponding steam production rates are 440,000 lb/hr and 400,000 lb/hr, respectively. *Controls*: Good combustion practices (GCP) of clean natural gas to minimize the emissions of $PM/PM_{10}/PM_{2.5}$, NO_X, CO, volatile organic compounds (VOC) and HAP. GCP and clean natural gas to minimize visible emissions (VE). Ultra-low NO_X burners and over-fired air (OFA) will be used to minimize NO_X emissions. *Stack Parameters*: Flue gas from Boiler D will discharge to the atmosphere via a stack with a design height of at least 150 feet and a maximum design diameter of 8.2 feet. The flue gas exit temperature will be approximately 350°F with a design volumetric flow rate of 314,379 actual cubic feet per minute (ACFM). *CEMS/COMS*: Continuous Emission Monitoring Systems (CEMS) to measure NO_X, and CO and a Continuous Opacity Monitoring System (COMS) to measure opacity (VE). *Applicability of 40 CFR 60, Subpart Da (NSPS Subpart Da)*: This unit is subject to NSPS Subpart Da - Standards of Performance Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978. [Application No. 0990332-021-AC]	

EQUIPMENT

1. Construction of Natural Gas Fueled Boiler D: The permittee is authorized to construct one natural gas-fired boiler (Boiler D) with a design heat input rate of 536 MMBtu/hr and a corresponding design steam production rate 400,000 lb/hr on a 24-hour basis. Boiler D will include an air supply, ultra-low NO_X burners, OFA ports, steam drum, economizer, air heater, ducts, fuel feeding equipment, air pollution control equipment and other associated equipment. [Application No. 0990332-021-AC]

2. Air Pollution Control Equipment: To comply with the emission standards of this permit, the permittee shall install the following air pollution control equipment systems on Boiler D.
   a. Ultra-low NO_X Burners: The permittee shall design, install, operate and maintain ultra-low NO_X burners on Boiler D to control NO_X and CO emissions in the flue gas exhaust and achieve the NO_X and CO standards specified in this subsection.
   b. OFA: The permittee shall design, install, operate and maintain OFA ports on Boiler D to control NO_X emissions in the flue gas exhaust and achieve the NO_X standards specified in this subsection.

   [Application No. 0990332-021-AC; and Rules 62-212.400(10) (PSD), Control Technology Review and 62-210.200(PTE), F.A.C.]

PERFORMANCE RESTRICTION

3. Authorized Fuels: Boiler D is authorized to combust natural gas as its primary fuel. The natural gas shall be limited to 2 grains of sulfur per 100 standard cubic feet (2 gr/100 SCF). Boiler D is authorized to combust No. 2 fuel oil with a maximum S content of 0.05 (weight %) for 48 hours in any calendar year. During periods of natural gas curtailment, the permittee is authorized to burn liquid fuel. [Application No. 0990332-021-AC; Rules 62-4.070(3), 62-212.400(10) (PSD), Control Technology Review and 62-210.200(PTE), F.A.C.]

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4. Boiler Heat Input Rate: The maximum 1-hour average heat input rate to Boiler D is 589 MMBtu/hr with a maximum 24-hour average heat input rate of 536 MMBtu/hr. The corresponding steam production rates at the heat input rates are 440,000 lb/hr and 400,000 lb/hr, respectively.
[Application No. 0990332-021-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

5. Operational Hours: The hours of operation of the Boiler D are not restricted (8,760 hours/year)
[Application No. 0990332-021-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

6. Boiler D Operation: The Boiler D shall provide steam to the co-located sugar mill and to the existing STEG for electrical production. [Application No. 0990332-021-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

NSPS APPLICABILITY

7. Subpart Da: The Boiler D must meet all applicable requirements of NSPS 40 CFR 60, Subpart Da – Standards of Performance Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978. Subpart Da is contained in Appendix Da of this permit. For Boiler D, NSPS Subpart Da contains emission limits for visible emissions (VE), sulfur dioxide (SO_2), NO_X or a NO_X + CO combined limit along with notification, recordkeeping and reporting requirements. A CEMS are required for NO_X and if the unit elects to comply with the NO_X + CO combined emission limit, a CO CEMS is required. The PM emission limit in NSPS Subpart Da is not applicable to Boiler D because the boiler will only burn gaseous and liquid fuels. [Application No. 0990332-021-AC and 40 CFR 60, NSPS Subpart Da]

NESHAP APPLICABILITY

8. Subpart DDDDD: Boiler D must meet all the applicable requirements of NESHAP 40 CFR 63, Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. Boiler D is consider a Gas 1 unit and as such does not have to meet any emission limits in Subpart DDDDD. However, Subpart DDDD requires that a tune-up of the boiler or process heater be conducted annually as specified in §63.7540 and will conduct this tune-up as a work practice for all regulated emissions under this subpart. [NESHAP Subpart DDDDD]

{Permitting Note: NHPC has petitioned the EPA to reconsider the applicability of the Subpart DDDDD regulations to the NHPC boilers. If the EPA changes the applicability, the appropriate specific conditions in this permit will be changed accordingly.}

EMISSIONS STANDARDS

9. Emission Limits: Emissions from the Boiler D at the Okeelanta Cogeneration Plant shall not exceed the standards given in the table below. All emission standards are determinations of BACT unless otherwise noted.

Pollutant	Emission Limit	Compliance Method	Basis
NO_X	18.8 lb/hr	30 day rolling average by CEMS	BACT
	0.035 lb/MMBtu		
	0.70 lb/MW-hr (gross energy output)		NSPS Da
	0.76 lb/MW-hr (net energy output)		
SO_2 [a]	2 gr/100 scf of S (natural gas)	FM [b]	Rule 62-4.070, F.A.C., Reasonable Assurance
	0.05% S (fuel oil)		
CO [c]	42.9 lb/hr	30 day rolling average by CEMS	BACT
	0.080 lb/MMBtu		
$PM_{10}/PM_{2.5}$ [c, d]	2 gr/100 scf of S (natural gas)	FM [b]	BACT

Pollutant	Emission Limit	Compliance Method	Basis
	0.05% S (fuel oil)		
	Opacity (VE) shall not exceed 10% opacity for each 6-minute block average [e]	By COMS	
	---	Initial Stack Test [f]	
VOC [g]	3.18 lb/hr	Initial stack test	Rule 62-4.070, F.A.C., Reasonable Assurance
	0.0054 lb/MMBtu		

a. Meeting fuel sulfur limits will insure compliance with NSPS Subpart Da limits of SO_2 emissions limits of 1.0 pound per megawatt hour (lb/MW-hr) gross energy output or 1.2 lb/MW-hr net energy output.
b. FM = fuel monitoring to show sulfur content of the natural gas and fuel oil meets permit limits. Vendor certification may be used in lieu of testing.
c. Limits are for natural gas and fuel oil usage.
d. VE for both natural gas and fuel oil usage. Meeting this visible emission limit will show compliance with NSPS Subpart Da VE limit of limit of 20% opacity (6-minute average) except up to 27% opacity is allowed for one 6-minute period per hour.
e. During startups, shutdowns and malfunction the following limits apply: 20% opacity (6-minute blocks) except for one 6-minute block per hour of 27%.
f. Initial stack test to determine PM10/P.2.5 filterable plus condensable emission rate utilizing EPA Test Methods 201A and 202. Applicant expects emission rate to be 0.00745 lb/MMBtu.
g. Initial stack test to verify emission rate. Additional stack test required upon renewal of Title V air operation permit.

[Application No. 0990332-021-AC; Rule 62-212.400(10) (PSD), Control Technology Review]

10. Continuous Monitoring Requirements: The permittee shall install, calibrate, maintain and operate CEMS, a COMS and a diluent monitor to measure and record the emissions of NO_X and CO and opacity from the Boiler D stack in a manner sufficient to demonstrate continuous compliance with the CEMS-based and COMS-based emission standards in **Specific Condition 9** of this subsection. Each CEMS and COMS shall be installed, calibrated and properly functioning within 60 calendar days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup and prior to the initial performance tests. Within one working day of discovering emissions in excess of a NO_X and CO standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.

    a. NO_X CEMS: The NO_X CEMS shall be certified, operated, and maintained in accordance with the requirements of 40 CFR Part 75. Recordkeeping and reporting shall be conducted pursuant to Subpart Db in 40 CFR 60 and Subparts F and G in 40 CFR 75.

    b. CO CEMS: The CO CEMS shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The RATA tests required for the CO monitor shall be performed using EPA Method 10 in Appendix A of 40 CFR 60 and shall be based on a continuous sampling train. The CO monitor span values shall be set appropriately, considering the allowable methods of operation and corresponding emission standards.

    c. COMS: In accordance with BACT the permittee shall install, calibrate, operate and maintain a continuous opacity monitor (COM) to continuously monitor and record opacity from the steam generating unit. The COMS shall be certified pursuant to 40 CFR 60 Appendix B, Performance Specification 1.

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d. Diluent Monitor: The oxygen (O_2) or carbon dioxide (CO_2) content of the flue gas shall be monitored at the location where CO and NO_X are monitored. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR 75. In addition a volumetric flow rate monitor shall be installed at the location where CO and NO_X are measured.

[Rule 62-212.400(10), F.A.C.; Rule 62-210.200(PTE), F.A.C.; Rule 62-4.070(3), F.A.C.; and 40 CFR 60, Subpart Da and Appendices]

STARTUP, SHUTDOWN, AND MALFUNCTION REQUIREMENTS

11. Malfunction Notifications: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Compliance Authority in accordance with the following. If the permittee is temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the permittee shall immediately (within one working day) notify the Compliance Authority. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with Department rules. If requested by the Compliance Authority, the owner or operator shall submit a quarterly written report describing the malfunction. [Rules 62-210.700(6) and 62-4.130, F.A.C.]

12. Emission Limit Compliance and Excess Emission: Because of the long-term nature of all of the NO_X, and CO mass emission rate limits in lb/hr and as part of PSD and the associated BACT determination, all emissions data for these pollutants, including periods of startup, shutdown and malfunction, shall be included in any compliance determinations based on CEMS data.
[Rule 62-210.700(4), 62-210.200(PTE); Rule 62-212.400(10) (PSD), Control Technology Review; and Rule 62-4.070(3), F.A.C.]

13. Excess Emissions Allowed – Opacity Requirements: As provided by the authority in Rule 62-210.700(5), F.A.C., the following conditions supersede the provisions in Rule 62-210.700(1), F.A.C.

    a. Opacity: During startup, shutdown and malfunctions, the stack opacity shall not exceed 20 percent based on a 6-minute block average, except for one 6-minute block per hour that shall not exceed 27 percent opacity.
    [Rule 62-210.700(5), 62-210.200(PTE); Rule 62-212.400(10) (PSD), Control Technology Review; and Rule 62-4.070(3), F.A.C.]

TESTING REQUIREMENTS

14. Heat Input Determination: Heat input to the boiler shall be determined using the following methods:

    a. For emission limits based on a lb/MMBtu basis, the permittee shall use a fuel flow monitoring system certified and operated according to the requirements of appendix D of 40 CFR Part 75. Other requirements of 40 CFR 60.49Da and 40 CFR Part 75 to calculate heat input based on fuel consumption and fuel heating value shall be used (See Appendix F).

    b. For emission limits based on a lb/MW-hr basis, the permittee shall meet the requirements of 40 CFR 60.49Da.

    [40 CFR 60.49Da(n); 40 CFR Part 75]

15. Stack Tests: In accordance with test methods specified in this permit, Boiler D shall be tested to demonstrate initial compliance with the emissions standard for VOC. The tests shall be conducted within 60 days after achieving the maximum heat input rate to the boiler, but not later than 180 days after the initial startup of the boiler. Subsequent compliance stack tests for VOC shall be conducted upon permit renewal. Tests shall be conducted between 90 percent and 100 percent of the maximum heat input rate when firing only the primary fuel. CEMS data for CO along with COMS data for opacity shall be reported for each run

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of the required stack tests for VOC. The Department may require the permittee to repeat some or all of these initial stack tests after major replacement or major repair of any air pollution control or process equipment. [Rules 62-212.400(5)(c) and 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8]

{Permitting Note: All initial tests must be conducted between 90 and 100 percent of permitted capacity; otherwise, this permit will be modified to reflect the true maximum capacity as constructed.}

16. Test Methods: Any required stack tests shall be performed in accordance with the following methods.

EPA Method	Description of Method and Comments
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content *{Notes: Methods shall be performed as necessary to support other methods.}*
9	Visual Determination of the Opacity
10B	Measurement of CO Emissions (Instrumental) *{Note: The method shall be based on a continuous sampling train.}*
18	Measurement of Gaseous Organic Compound Emissions (Gas Chromatography) *{Note: EPA Method 18 may be used (optional) concurrently with EPA Method 25A to deduct emissions of methane and ethane from the THC emissions measured by Method 25A.}*
25	Determination of Total Gaseous Nonmethane Organic Emissions as Carbon
25A	Measurement of Gaseous Organic Concentrations (Flame Ionization)
201A	Determination of PM_{10} and $PM_{2.5}$ Emissions from Stationary Sources
202	Dry Impinger Method for Determining Condensable Particulate Emissions from Stationary Sources

The test methods are specified in Appendix A of 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Compliance Authority. [Rules 62-204.800, F.A.C. and 40 CFR 60, Appendix A]

OTHER REQUIREMENTS

17. Steam Parameters: In accordance with the manufacturer's recommendations, the permittee shall install, calibrate, operate and maintain continuous monitoring and recording devices for the following parameters: steam temperature (°F), steam pressure (psig) and steam production rate (lb/hour). Records shall be maintained on site and made available upon request. [Rules 62-4.070(3) and 62-212.400(5), F.A.C.]

18. NESHAP Subpart DDDDD Boiler Tune-Up: Per NESHAP Subpart DDDDD, Table 5, a new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 MMBtu per hour or greater shall conduct a tune-up of the boiler or process heater annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Boiler D is a Gas 1 subcategory unit and shall conduct this tune-up in lieu of having to meet NESHAP Subpart DDDDD emission standards. [NESHAP Subpart DDDDD]

RECORDS AND REPORTS

19. Stack Test Reports: In addition to the information required in Rule 62-297.310(8), F.A.C., each stack test report shall also include the following information: steam production rate (lb/hour), heat input rate (MMBtu/hour), natural gas firing rate in cubic feet per minute, fuel oil firing rate in gallons per minute (if necessary) and emission rates (lb/MMBtu and lb/hr). [Rule 62-4.070(3), F.A.C.]

20. Monthly Operations Summary: By the tenth calendar day of each month, the permittee shall record the following in a written or electronic log for the previous month of operation: hours of operation, cubic feet of natural gas, gallons of fuel oil (in necessary), pounds of steam per month, total heat input rate and the updated 12-month rolling totals for each of these operating parameters. In addition, the hourly heat input rate to the peaking boiler shall be recorded and reported. The Monthly Operations Summary shall be

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maintained on site and made available for inspection when requested by the Department. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

21. Quarterly CO, NO_X and Opacity Emissions Report: Within 30 days following the end of each quarter, the permittee shall submit a report to the Compliance Authority summarizing CO, NO_X and opacity including periods of startups, shutdowns, malfunctions, and CEMS and COMS systems monitor availability for the previous quarter. If COMS data is excluded from a compliance determination during the quarter due to a startup, shutdown or malfunction, the permittee shall include a description of the malfunction, the actual emissions recorded, and the actions taken to correct the malfunction. If a COMS reading detects an opacity limit threshold breakthrough and the readings are believed to be suspect (e.g., high moisture on the COMS lens due to weather changes), then the permittee is allowed to use data Method 9 visible opacity measurements to substantiate errors, problems, or malfunctions with the COMS unit. See Appendix CTR of this permit for the reporting format. [Rules 62-4.070(3), 62-4.130 and 62-210.400(5)(c), F.A.C.]

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